From boatanchors@theporch.com Tue Nov 28 11:59:00 1995
From: pmills@cyberhouse.com (Phil Mills)
Subject: 4D32 free to good home
Message-ID: <199511280153.TAA07224@ns.cyberhouse.com>

Ladies and Gentlemen,

I read some posts today dealing with scarcity of 4D32's......

"Alas, alas, woe is me,
I do not have a 32-V"

I do have a Raytheon 4D32 in original Raytheon box but unknown condition. It appears new to me but has one of the 7 pins cut off...is this the keyway? Anyway, I will gladly mail this gem *FREE* to the first person who responds with a mailing address, a professed need, and a hint at what transmitters use this thing.

thanks,
Phil

Phil Mills, AB5TH
pmills@cyberhouse.com
713-482-2763

From boatanchors@theporch.com Tue Nov 28 11:59:00 1995
From: pmills@cyberhouse.com (Phil Mills)
Subject: 4D32 spoken for
Message-ID: <199511280235.UAA07291@ns.cyberhouse.com>

Ladies and Gentlemen,

I do have a taker for my free 4D32 but I'm still in search of some answers.....is the cut pin the keyway? And, is this tube used in anything but Collins (and which models?) or the Viking I.

thanks,
Phil
Phil Mills, AB5TH
pmills@cyberhouse.com
713-482-2763

From boatanchors@theporch.com Tue Nov 28 11:59:00 1995
From: lbbarley@southwind.net (Bruce Barley)

Subject: Re: 833A, 250TL, 803...
Message-ID: <199511280845.CAA28819@onyx.southwind.net>

Hello, Ken;

Your high school ham club is a rich bunch of kids! PLEASE TAKE CARE OF THOSE TUBES!

```
Current pricing:  833A - $110
                  803  - $ 25
                  832A - $  8
                 250TL - $200
```

This is PER EACH. Those guys ought to have an auction. Take the proceeds and buy the kids some Ten-Tec kits, some MFJ CW practice sets, etc. Stuff they can USE!

Best wishes- 73's

Bruce KB0PZD
lbbarley@southwind.net

```
>The ham radio portion of an estate was recently donated to a high school
>radio club (in the formation process) and among the goodies was a box of
>tubes.  I looked up the specs in an older copy of the ARRL handbook but I
>was wondering what sort of equipment (brands, models) used these tubes.
>The tubes are a 833A by RCA, three 803's by RCA dated Apr. 1943, two
>832A's by RCA, and five VT 130/250TL's (three by JAN, two by Eimac.)
>
>If nothing else, the tubes look neat and would make a nice display.
>
>Ken
>
>__________________________________________________________________________
>Ken Harrison   ---   harrisok@vax.sonoma.edu   ---   Amateur Radio:  N6MHG
>~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~
>
>
>
>
>
>
```

From boatanchors@theporch.com Tue Nov 28 20:42:00 1995
From: List Admin/Owner BoatAnchor Mail List <listown@jackatak.theporch.com>

Subject: Administrivia: *REMINDER* System Outage
Message-ID: <9511280650.aa14645@jackatak.theporch.com>

Gang-

Another reminder that, this Friday, 1 December 1995, the *entire* connection to the InterNet for our ISP *WILL* be down from 07:00 to midnight... Not *just* theporch.com, but ALL systems connected through the ISP we use! Not only that, even their voice lines are going to be out!

We hope things will go according to plan, but since we know in advance,

PLEASE EVERYONE... be patient and do not ping the list or send duplicates because you do not see a submission reflected back... it *won't* happen, and when we do come back on line, that would make the recovery really difficult and more problematic...

PLEASE help us out and try to remember to "Go Lite" on Friday!

Thanks.
--
73
Jack, W4PPT/Mobile (75M SSB 2-letter WAS #1657/#1789 -- both all mobile! ;^)
- - - BoatAnchor Mailing List Archiver/Owner - - -
firebotl@jackatak.theporch.com ---- listown@jackatak.theporch.com

From boatanchors@theporch.com Tue Nov 28 20:42:00 1995
From: List Admin/Owner BoatAnchor Mail List <listown@jackatak.theporch.com>
Subject: Administrivia: Submission Help needed...
Message-ID: <9511280739.aa15370@jackatak.theporch.com>

Morning Gang-

I guess it is about time for another reminder to everyone about the submissions to the BoatAnchor List:

1) Please try to observe good etiquette and *ONLY* include the text from a previous message that is necessary to maintain context. At the present subscription rate, a line of 65 characters will turn into 50,000 characters of mail to be delivered. each 10 extra lines adds 500KB to the mail load and brings Phil and me that much closer to having to add hardware and bandwidth to keep the list afloat.

2)   Please try to remember that not everyone sees the headers
        for each post, because their system administrators don't think
        people need to see this "data"... Not only that, but many
        gateways *mangle* the address anyway, rendering a "reply"
        impossible... So, to help everyone out, PLEASE include your
        email address in your .sig

3)   Please try to remember, this list is for the discussion of
        vintage *TUBE* equipment and the lore that surrounds these
        firebottle beauties. An occasional excursion on a side-subject
        is generally welcome if it stays reasonably close... I am
        still trying to understand the connection to "Hollow State"
        to be found in snorting saline solution... perhaps by keeping
        the sinuses open, we achieve a "Hollow State"? Please folks...

Thanks for your attention... And now back to Heavy Metal and
FireBottles! ;^)

--
73
Jack, W4PPT/Mobile (75M SSB 2-letter WAS #1657/#1789 -- both all mobile! ;^)
- - - BoatAnchor Mailing List Owner - - -
listown@jackatak.theporch.com-"Plus ca change, plus c'est la meme chose"

From boatanchors@theporch.com Tue Nov 28 11:59:00 1995
From: "Gary H. Harmon, Jr." <gharmon@legend.txdirect.net>
Subject: Another Source for Manuals
Message-ID: <9511272325.AA00970@legend>

I received a very nice note from Al/W2ZUX after I inquired about his ability to provide copies of manuals for BA stuff. Some of you may be aware of Al, but just in case, here is how to contact him.

Alton H. Bowman
W2ZUX
4172 East Ave., RD2
Canandaigua, NY 14424-9564

Al says he has manuals for everything from garage door openers to electronic organs, CB radio (gulp), test equipment, ham radio, etc. He specializes in equipment from the 1920-1970 era, and says, "Most of my material is tube type (that could mean BAs for those of you in Rio Linda). He further says, "I charge $5 for a schematic with 1-6 pages of text. Real complicated schematics I enlarge to 11X17, same price. Manual proces depend on the number of pages; 6-10 pages $6, 16-30 pages $8, etc. Material is good photocopy, subject to yur approval, or your money refunded."

He sent me an information sheet and a brochure from the Radio Museum in East Bloomfield, NY.

Happy hunting! 73, GARY

==
Gary H. Harmon, Jr., K5JWK   gharmon@txdirect.net
6302 Robin Forest   K5JWK@K3WGF.STX.USA.NOAM
San Antonio, TX 78239

From boatanchors@theporch.com Tue Nov 28 20:42:00 1995
From: pbock@melpar.esys.com (Paul H. Bock)
Subject: BA Auction
Message-ID: <9511281815.AA06737@syseng1.se.melpar.esys.com>

Well, the company's "let's auction off some of this junk to the employees" auction is now history. Although I bid on several items (written bids), so far the only one I've been notified to pick up is an HP 400H VTVM. Decent condition, last calibrated 4/95. I gave $10 for it.

As I found out recently while trying to align a tricky circuit, there is no substitute for a good analog meter for peaking or dipping (especially dipping); and since I let my trusty Knight VTVM go about 10 years ago, I decided it was time for something to fill the void. I think the HP will do the trick.....

73,

Paul, K4MSG

From boatanchors@theporch.com Tue Nov 28 11:59:00 1995
From: "Dick Dillman" <ddillman@igc.apc.org>
Subject: BA Fax by Alden
Message-ID: <89938.ddillman@igc.apc.org>

This past weekend I removed from long term storage an item that might interest fellow list members. It's an Alden model 519M(T)-EA marine facsimile recorder. While not hollow-state (its electronics use discrete transistors) it may perhaps qualify as a genuine boatanchor by size and weight. It's almost 5ft. high and takes two strong people to lift.

The 519 uses paper impregnated with electrolyte to produce fax images about 19in. across. The paper passes between a rotating drum with a helix on it as one electrode and a moving blade type electrode. Voltage passing between the two changes the color of the paper and produces the image. There is a detented rod to shift gears for a drum rotation of 60, 90 or 120 rpm and a shift lever to select between 96 and 48 lines per inch.

The electronics, mounted in the cabinet below the recorder head, consist of marker amplifier, recorder control and precision A.C. modules. Below them is a type 421A facsimile converter which accepts the audio output from the companion receiver. There are numerous flashing neon indicators for tuning and audio level, meters and pilot lights.

All in all, the shifting of gears and adjusting of controls while watching the image emerge is a bit of a one man band performance but highly satisfying for those of us who enjoy such things.

The machine will respond to the standard fax tones at the beginning and end of transmissions. It's quite the thing to see this monster, sitting quietly in the corner, suddenly come alive at the fax begins and hear it shift through several drum speeds as it synchronizes with the incoming image.

The 519 was originally purchased for use on a Greenpeace ship but the new technology soon outstripped it and it was retired 15 years ago or more. But it worked perfectly after a bit of dusting off. I had my doubts about the paper stored with it but it too was ready to go. Alden says in their 1972 manual that they've tested the paper for 16 years of storage so I guess I can confirm their findings.

The only receiver currently in the collection that's stable enough for fax reception is the R-390A and it's doing a fine job. But when I first started with fooling with fax many years ago I used an RBC with a BC-221 as the BFO (both still inventory) and a rotating drum fax machine that burned the white overlay from black paper with a HV spark. Sadly, that fax machine was traded away.

Since there's been some talk in the bast about putting electromechanical Teletype machines back in service I hope list members will enjoy knowing that a vintage fax machine is once again doing its thing.

Best Regards,

Dick Dillman/WPE2VT
<ddillman@igc.apc.org>
San Francisco

From boatanchors@theporch.com Tue Nov 28 11:59:00 1995
From: Michael Covington <mcovingt@ai.uga.edu>
Subject: CRT rejuvenation
Message-ID: <199511280116.UAA24979@aisun3.ai.uga.edu>

Anyone care to share recipes/procedures for rejuvenating old CRTs
(mainly oscilloscope-type) that have lost emission?

What is the risk of burning out the filament while rejuvenating the CRT?
Very low, or appreciable?

I have all sorts of power supplies available but no CRT rejuvenator per se.

```
--
Michael A. Covington                http://www.ai.uga.edu/faculty/covington/
Artificial Intelligence Center                                            <><
The University of Georgia                Unless specifically indicated, I am
Athens, GA 30602-7415 U.S.A.                not speaking for the University.
```

From boatanchors@theporch.com Tue Nov 28 20:42:00 1995
From: "Gable, Edward M" <emg@rfpo2.rfc.comm.harris.com>
Subject: Dave W3BJZ & 2-01C
Message-ID: <30BAFDB4@smtpgate.rfc.comm.harris.com>

Dave: I don't have ur e-mail Adr but I have NOS 2-01C for you cheap.
Ed K2MP emg@rfc.comm.harris.com

From: boatanchors
Subject: HP 410B VTVM
From boatanchors@theporch.com Tue Nov 28 11:59:00 1995
From: Bob Roehrig <broehrig@admin.aurora.edu>
Subject: Re: Drake 2-B Crystals
Message-ID: <Pine.ULT.3.91.951127185242.27433A-100000@admin.aurora.edu>

The 2-B manual shows the xtals needed. Fundamental xtals are used below
20 MHz and 3rd overtone xtals are used above 20 MHz.
The general formula is:

XTAL = Lowest desired freq + 4 MHz
or
XTAL = Highest desired freq - 4 MHz

Example: to cover 10.0 to 10.5 MHz the xtal = 10 + 4 = 14 MHz.

A given xtal can cover 2 bands (one additive and one subtractive) as long as the coverage is between 4 and 30 MHz.

Xtals don't need to be right on frequency so you can use "odd" surplus xtals if you mentally add or subtract the dial reading. I have often used old 2-way xtals out of Motorola VHF gear (around 12 to 13 MHz) for example.

NOTE: the same xtal is used for 15 meters as well as 28.5 to 29 MHz.

You may have to change sockets with a particular xtal to get 2 bands to work - or else build an outboard switch box as I did. The switchbox leads then connect to all the unused sockets in the receiver by using the bases from scrapped xtals as plugs, with the leads all connected together.

73 de Bob, K9EUI

From boatanchors@theporch.com Tue Nov 28 11:59:00 1995
From: Mark60195@aol.com
Subject: Re: Drake 2-B Crystals
Message-ID: <951127233743_60390592@emout05.mail.aol.com>

In a message dated 95-11-27 11:43:13 EST, chonte@prism.nmt.edu (Felix Barreras) writes:

>> Will someone please tell me the type of crystals used in the Drake 2-B
>> and a source.
>> 73 pridgent@pinn.net
>>
>Hello Terry
>I got my crystals form Jan Crystals and they work just great. Their
>number is 1-800-jan-xtal or 1-800-jan-xtals. I have had my Drake 2-B for
>a couple of years and I am quite pleased. I use use it with a Drake 2-NT
>xmtr and have made a few contacts. I have the manuels for both and if you
>need a copy, let me know.
>ps: call Jan and tell them what band(s) you want to work and they will fix
>you up.

JAN is great but a little pricey for me. I just ordered a set of HFO xtals for a Heath

SB-401 from Peterson Radio (712) 323-7539 for $8.50 each. Best price I've been able to find and they said 1 week delivery. Good Luck!

Mark Lakomski
WB9PPL

From boatanchors@theporch.com Tue Nov 28 20:42:00 1995
From: mallick@orion.crd.ge.com (John Mallick)
Subject: Drake T4XC plate current...
Message-ID: <9511281523.AA02001@orion.crd.ge.com>

While fiddling with my newly acquired Bird wattmeter last night, I found that my T4XC was putting out only about 35 watts (into a dummy load) with about 300 mA on the plate current meter (this is where I normally run it). If I follow the instructions in the manual to "increase the GAIN control to just below the point where the plate current fails in increase", I get the output to well over 100 watts, but the plate current is up at 500 mA. The output is still "dipped". I recall that the plate voltage is around 650V, so the input then is well up into the 300 watt range, which seems excessive. BTW, all tests run on 3.5 MHz.

So, what's the scoop? At about 300 mA I should about 200W input, but the output is low. Poor drive?

What do other Drake owners see?

TIA and 73,

John WA1HNL
(mallick@crd.ge.com)

From boatanchors@theporch.com Tue Nov 28 20:42:00 1995
From: thaake@bsm2ee1.attmail.com (thaake)
Subject: Dumpster Microwaves
Message-ID: <PMX-TERM-2.02-bsm2ee1-thaake-16>

Anchorites,

Monday is the garbage day in my subdivision and while driving to work not 1 block away there lay a Sharp microwave oven next to the cans. My question is as anyone used the power transformer, cap, diodes for powering amps and or modulator projects?

I have heard of them being a potential source of power supply parts but never carried one home until now since it was so close.

The unit is a 650W model at 2450MHZ(I think it said). The power transformer has no center-tap. The secondary has one side grounded the other feeding a 0.80uf (that's what it says) 2000 WVAC tub cap that then feeds a paralleled diode resistor combo to ground. That same side cap also feeds the mag tube.

I had hoped for a slightly more robust power supply config. but if this gets the job done then I am certain it is cheaper to mass produce. Were the earlier machines built bigger/better?

Any comments? I promise not to defeat the door switch and stick my head inside while I measure the B+. Infact I have already unhooked the wires from the mag. BTW, this thing is full of nice micro switches, 3 phono style motors and a counter timer that works with relay output. Nice haul.

Tim WA0TSY
thaake@bsm2ee1.attmail.com

From boatanchors@theporch.com Tue Nov 28 11:59:00 1995
From: "Chuck Rippel" <crippel@exis.net>
Subject: Easy 600 ohm audio matching
Message-ID: <199511280246.VAA27124@marlin.exis.net>

I have been seeing a lot of discussion about matching the 600 ohm audio output of various hollow-state and vintage receivers to 8 or 4 ohm speakers.
Some of you may already know this technique and some, perhaps not. If it helps a few folks out, I'll be worth posting.

The best article was written in the Hollow State News by Dallas Lankford in October 1990 and involved using a 25V line transformer (widely available).

The transformer, Stancor model A8089 has primary taps at .5, 1, 2 and 4 watts. Using the formula, V(squared)/P, those taps yield 1250, 625 312 and 156 ohms respectively. Using the 1 watt primary and 8 ohm secondary taps gives you a very close match at

600 ohms.

A 70.7 volt line transformer can also be used in the same manner on the 10 watt tap to yield 500 ohms.

I use 25V transformers and am very happy with the results. The audio from my

SP-600 is really impressive.

+++

Chuck Rippel
crippel@exis.net

+++

From boatanchors@theporch.com Tue Nov 28 11:59:00 1995
From: "Cal J. Eustaquio" <ceustaqu@violin.aix.calpoly.edu>
Subject: Re: Floating transformers
Message-ID: <Pine.A32.3.91.951128034706.58090C-100000@violin.aix.calpoly.edu>

John:
Isn't the '500 p.s. interlocked? I think it is, however, to those of you
who know better, correct me if I'm wrong. Tnx. Cal.

On Mon, 27 Nov 1995, John Staples wrote:

>
> >
> >
> > On 11/27 Cal Eustaquio wrote:
> >
> > >One possible source is $$$$$$ P. Dahl out of El Paso, Texas. Another is
> > >Lucas Xfmrs out of Michigan someplace (check issues of ER). But one
> > >noteworthy item to do when you replace your transformer is to put a
> > >delrin sheet under the transfomer and isolate the transformer from
> > >chassis ground. The main intent here is to reduce the high-voltage stress
> > >to the transformer (see the article in ER regarding W6BM's restoration of
> > >his Collins AM broadcast xmtr). That otta do it. Good luck and 73's. Cal.
>
> >
> > "Floating" the modulation transformer or the HV tranformer of a rig to reduce
> > the stress on the insulation sounds like a good way to get somebody killed.
> > If a short develops between one of the windings and the iron, no fuse will
> > blow. The iron will lay in wait for someone to touch it to see how hot it's
> > running, and "good-bye".
> >
> > 73
> > Ed Knobloch K4PF
> >
>
>
> I need to address this issue. The original W6BM article involved the
restoration

> of a commercial broadcast transmitter, where the cabinet is interlocked.
> It is not unusual practice in broadcast transmitters to already have
transformers
> floated on insulators inside an interlocked cabinet. Ham transmitters, such
> as the KW-1 and Johnson Desk, are known to have frequently lost the modulation
> transformer, and also have interlocks on the cabinet. In those transmitters,
> particularly if the modulation transformer has not already shorted out, it
> would be considered (by me) to be good preventative maintenance to float it
> to reduce the voltage stress between the windings and the core.
>
> Knoblock is correct in stating that floating the transformer could be dangerous,
> and should not be attempted in rigs that do not have interlocked cabinets
> or some secure way of preventing accidental contact with high voltage is
present.
> In the larger transmitters, such as the above mentioned, where the _entire_
> interior of the unit is considered dangerous and is therefore interlocked,
> transformer floating can be considered safe as long as usual safety procautions
> are taken including interlocks and automatic grounding of all high voltage
> leads when the doors are opened. Grounding sticks are also recommended that
> are used to short to ground transformer cases and other hazards is also
> recommended. Manually-operated grounding sticks as well as
> automatic grounding systems are required on our high-voltage systems here at
> work.
>
> ..John Staples, W6BM
>

From boatanchors@theporch.com Tue Nov 28 20:42:00 1995
From: "Cal J. Eustaquio" <ceustaqu@violin.aix.calpoly.edu>
Subject: FS: BW SSB Adaptor Mod 370
Message-ID: <Pine.A32.3.91.951128061421.83871A-100000@violin.aix.calpoly.edu>

Need a CV 591 SSB receiver but can't find one? I have a modified Barker
and Williamson SSB adaptor for sale (cheap). It will tune to most
standard IF's (such as 455 and 500 Khz). I have used it successfully on a
Hammarlun HQ-150 and Collins R-388. It has been modified with a non-stock
pilot lamp and a B+ switch. Hence, asking price is $35 plus shipping.
Contact me at this e-mail address. 73's. Cal, N6KYR.

From boatanchors@theporch.com Tue Nov 28 20:42:00 1995
From: pbock@melpar.esys.com (Paul H. Bock)
Subject: Re: Gibson Girl
Message-ID: <9511281443.AA01702@syseng1.se.melpar.esys.com>

Don Merz sez:

> Military WWII "Gibson Girl" emergency transmitter. Designed for lifeboat use,
> you were supposed to reel out the antenna, hold this between your knees
> (using the convenient canvas belt provided) and crank away. The radio
> then automatically sent S-O-S on the 500khz international distress frequency.
> Some models also transmitted on another frequency simultaneously but I can't
> tell if this is one of those or not. This one is in excellent shape and

A couple of comments:

First, it was used by the U.S. Navy as a lifeboat transmitter *AT LEAST* into the late 1960s, and maybe even later. So, it might take a careful inspection to determine the actual "vintage" of the one Don is selling (later is better, IMHO, if you actually intend to *use* the thing; less chance of catastrophic component deterioration).

Second, the model we used in the 1960s *ALTERNATED* between 500 kHz and the HF distress frequency as it was cranked. I'm not certain, but I think it also had the capability to be manually keyed (which implies a receiving capability as well). Anyone know for sure? (Fortunately, I never had to worry about it except during "Abandon Ship" training, during which we never actually put the lifeboats in the water, just the motor whaleboat.)

All that said, it would make an interesting conversation piece, particularly for someone who, say, owns a boat and likes maritime-type things on display.

73 DE K4MSG

From boatanchors@theporch.com Tue Nov 28 20:42:00 1995
From: pbock@melpar.esys.com (Paul H. Bock)
Subject: Re: Gibson Girl
Message-ID: <9511281529.AA03107@syseng1.se.melpar.esys.com>

>Don Merz sez:

> Military WWII "Gibson Girl" emergency transmitter. Designed for lifeboat use,

<snip>

>A couple of comments:

>   Second, the model we used in the 1960s *ALTERNATED* between
>500 kHz and the HF distress frequency as it was cranked. I'm not

>certain, but I think it also had the capability to be manually
>keyed (which implies a receiving capability as well).

Thanks to Boatanchor Bob for an e-mail clarification: It alternated between 500 kHz and 8364 kHz, had a red button on top for manual keying, but no receiver.

73 DE K4MSG

From boatanchors@theporch.com Tue Nov 28 20:42:00 1995
From: Jeffrey Herman <jherman@hawaii.edu>
Subject: Re: Gibson Girl
Message-ID: <Pine.SV4.3.91.951128060809.11235A-100000@uhunix5>

On Tue, 28 Nov 1995, Paul H. Bock wrote:
>   Second, the model we used in the 1960s *ALTERNATED* between
> 500 kHz and the HF distress frequency as it was cranked.

That would be 8364 kc.

Jeff NH6IL

From boatanchors@theporch.com Tue Nov 28 20:42:00 1995
From: Jeffrey Herman <jherman@hawaii.edu>
Subject: Re: Gibson Girl
Message-ID: <Pine.SV4.3.91.951128061625.11235C-100000@uhunix5>

On Tue, 28 Nov 1995, Jeffrey Herman wrote:
> On Tue, 28 Nov 1995, Paul H. Bock wrote:
> >   Second, the model we used in the 1960s *ALTERNATED* between
> > 500 kHz and the HF distress frequency as it was cranked.

> That would be 8364 kc.

Allow me to do a followup to myself: 8364 was only designated as a "Safety" frequency - there really was no HF distress/calling channel on the order of the wonderous 500 kc. I find this a shame. Between sunrise and sunset (when 500 kc was asleep), ships had to depend upon coastal stations scanning a calling *band* in the 4,6,8,12,16, and 22 Mc regions to have their distress messages heard. The ITU *should* have set aside an HF calling&distress daytime freq but failed to do so.

I'll go conduct a search of the literature to see if we can find out why they "overlooked" this.

Jeff NH6IL

P.S. We did have an 8364 guard receiver at NMO but it was in the HF traffic booth - a noisy place due to CW traffic being passed back and forth on the above mentioned 6 HF bands.

From boatanchors@theporch.com Tue Nov 28 20:42:00 1995
From: don merz <71333.144@compuserve.com>
Subject: Gibson Girl, Velvet Vernier FS
Message-ID: <951128133800_71333.144_DHB66-7@CompuServe.COM>

For Sale

CONTACT: Don Merz, N3RHT: 47 Hazel Drive, Pittsburgh, PA 15228.
412-234-8819 (weekdays, EST or leave a message anytime).
71333.144@compuserve.com

Military WWII "Gibson Girl" emergency transmitter. Designed for lifeboat use, you were supposed to reel out the antenna, hold this between your knees (using the convenient canvas belt provided) and crank away. The radio then automatically sent S-O-S on the 500khz international distress frequency. Some models also transmitted on another frequency simultaneously but I can't tell if this is one of those or not. This one is in excellent shape and includes the crank, belt, reel antenna and canvas bag. Seems to work-the lights blink like they are supposed to when it is cranked. Ready for your next emergency! The only hitch is that there might not be anyone listening for morse code on 500khz anymore! $115

Ferris Industries 18B "Micovolter" signal generator. This covers 27mhz through about 165mhz. It uses one acorn tube in the oscillator. Small but built like a battleship. Untested and assumed not to be working. I only held onto this because it has a beautiful original National Velvet Vernier dial on the front that I thought I might need. You can have the whole thing for $10 or just the dial for $15 (high labor cost!).

--

From boatanchors@theporch.com Tue Nov 28 11:59:00 1995
From: "Barry L. Ornitz" <u856010@eastman.com>
Subject: Glass Permeability, Diffusion, and Conductivity
Message-ID: <Pine.ULT.3.91.951127180309.103A-100000@dua150.kpt.emn.com>

Hi Mike and company.

For those into a little experimentation, read the following.

Glass is a super-cooled fluid (hence the term glassy state when describing many polymers). At elevated temperatures, it changes its properties considerably. It does so gradually with no distinct melting point too, which goes along with it being a VERY high viscosity fluid at room temperatures. At temperatures where the glass has softened considerably, it behaves very much like an ionic solution. This would typically be at "red" heat. You would not want to subject a vacuum tube envelope to these temperatures because air pressure would tend to cave in the glass around the electrodes within the tube, but if you did you would also find the glass becomes much more permeable to gases. The diffusion of ions through the glass increases rapidly too. Likewise the conductivity of the glass increases many orders of magnitude, much like the ionic solution it is.

If you can find any of the old "Aquadag" coating for CRT tubes (colloidal graphite in water solution), you can demonstrate this easily. Find a small diameter glass rod or tube or even a sliver of window glass a few inches long. Coat both ends with Aquadag leaving a gap between the coatings of about 1/4 inch. Attach clip leads to an ohmmeter and to the two ends of the glass piece. At room temperature, you should essentially read an infinite resistance. Now heat the region between the coatings with a propane torch and watch the ohmmeter. As the glass reaches higher temperatures, it becomes quite conductive. By the time the glass is soft enough to bend readily, its resistance is quite low.

At very high operating temperatures and with high electric gradients around the glass to metal seals of vacuum tube electrodes, it is possible to cause enough ionic conduction in the glass to destroy the seal. Fortunately not too many of us push our tubes that hard! :-)

73, Barry WA4VZQ ornitz@eastman.com

From boatanchors@theporch.com Tue Nov 28 20:42:00 1995
From: jschwart@ix.netcom.com (John Schwartzberg)
Subject: Hammarlund HC-10
Message-ID: <199511281553.HAA27624@ix6.ix.netcom.com>

Hello Anchorites -

Another interesting item followed me home over the weekend - a Hammarlund HC-10 converter. This is a complete back end of a receiver, including BFO and audio stages with notch and boost filtering. I even ended up with a manual for it, albeit quite by accident. So, for the Hammarlund fiends amongst us, here is a question.

The manual discusses (does not describe or detail) an adaptor for the signal input. The input jack on the converter is an RCA jack (signal and ground). The manual discusses removing the first (I believe) IF tube, plugging in the adaptor plug, then popping the tube into the adaptor. Thus, it must be the equivalent of a plug to match the IF tube socket with another socket piggy-backed. Can anyone confirm this? Is there anything tricky this adaptor does in picking off the 455 kc IF signal? If not, I assume (uh oh) that I can merely grab the IF signal from the IF tube socket and bring it out to the converter.

Looks like an interesting gadget, recommended by the manual to bring sparkling performance to modest receivers. Hmmm.....

Anyhow, I'd love to hear from anyone who has one of these things, had one of these things, or can comment especially on this adaptor.

Thanks in advance....

John
N0GII
jschwart@ix.netcom.com

From boatanchors@theporch.com Tue Nov 28 20:42:00 1995
From: jharper@bs2000.com (Jack Harper)
Subject: re: Hammarlund Linear
Message-ID: <v01510104acdff2c986c0@[204.131.233.29]>

> I was unaware that Hammarlund put out a linear amp.

<Snip>

> I believe it was the HXL-1.
The very rig.

<Snip>

>> I have found one for sale at $250
>Don't have 220AC in the mobile, so I'll pass, but I'd consoder it,
>especially at that price.

Actually, I think that the HXL-1's ran from 110AC -- at least mine does. I am at the office -- sans schematic -- probably 110 or 220 was/is an option or selectable with a tap etc.

Regards,

Jack, KC0LR

```
-------------------------------------------------------------------
Jack Harper                            Bank Systems 2000, Inc.
e-mail: jharper@bs2000.com             350 Indiana Street, Suite 350
voice:  303-277-1892 fax: 303-277-1785  Golden, Colorado 80401 USA

                 "21st Century Banking Applications"
                Private Label Optical Bank Card Systems
            Visit our Web Page: http://www.bs2000.com/talos
-------------------------------------------------------------------
```

From boatanchors@theporch.com Tue Nov 28 11:59:00 1995
From: Fire Bottle archive handler <firebotl@jackatak.theporch.com>
Subject: Hammarlund Linear Questions
Message-ID: <9511272135.aa07052@jackatak.theporch.com>

> I was unaware that Hammarlund put out a linear amp.

I had one until about a year or so ago... Neato apple-fryer I bought
it in 1976 along with an HQ-170 and HX-50... made a grand station,
that I sold off piecemeal to support other habits... ;^)

> I believe it was the HXL-1.

The very rig.

> Has anyone got any info on how much power they put out and were they a
> decent rig?

Very well designed... used a pair of 572B, just like the Heath
SB-200... what a tube! Nearly indestructable... I had one go bad
during a contest way back then... I ran for hours on ONE 572B putting
out 700Watts on a cheapo meter!

80-10M Pretty easy to service and neutralize, and just well-behaved

> I have found one for sale at $250

Don't have 220AC in the mobile, so I'll pass, but I'd consoder it,
especially at that price.

```
--
73
Jack, W4PPT/Mobile (75M SSB 2-letter WAS #1657/#1789 -- both all mobile! ;^)
            - - - BoatAnchor Mailing List Archiver/Owner - - -
firebotl@jackatak.theporch.com     ----    listown@jackatak.theporch.com
```

From boatanchors@theporch.com Tue Nov 28 11:59:00 1995
From: RhyneK@aol.com
Subject: Re: Hammarlund Linear Questions
Message-ID: <951127233755_118217917@mail04.mail.aol.com>

Thats a good price for a HXL-1. I have usually seen them in the $400 range. First production runs used two 572As. A very rare tube. Later ones used the 572Bs. Power output ran a little more than the Heathkit SB200. The HXL-1 has a good hefty power transformer. It covers 80 to 10mtrs. I would have to dig up the manual to give you further data.

Rhyne, KA1CX

From boatanchors@theporch.com Tue Nov 28 11:59:00 1995
From: David Adams <dave@flowserver.stem.com>
Subject: Hickock Tube Tester test?
Message-ID: <9511280026.AA02325@flowserver.stem.com>

Greetings! I have a Hickock Tube tester (547 I think...it's at home). It mostly functions well, but the octal socket tends to be a bit clueless at times. Does anyone know where I might find someone (in the bay area perhaps) that could repair/tweak the thing?

73 de dave, n9uxu/6

From boatanchors@theporch.com Tue Nov 28 11:59:00 1995
From: Bob Roehrig <broehrig@admin.aurora.edu>
Subject: Re: Hickock Tube Tester test?
Message-ID: <Pine.ULT.3.91.951127200520.27433D-100000@admin.aurora.edu>

On Mon, 27 Nov 1995, David Adams wrote:

>
> Greetings! I have a Hickock Tube tester (547 I think...it's
> at home). It mostly functions well, but the octal socket
> tends to be a bit clueless at times. Does anyone know where
> I might find someone (in the bay area perhaps) that could
> repair/tweak the thing?
>
> 73 de dave, n9uxu/6
>

Hi Dave. Sounds like your octal socket is work out perhaps. You could replace it without too much trouble. Another idea is that someone used to make "socket savers" for tube testers. These were a plug/socket combination that you plugged into the tester socket and you wore it out instead of the one in the tester. These can be easily made too.

73 de Bob, K9EUI

From boatanchors@theporch.com Tue Nov 28 11:59:00 1995
From: "Gary H. Harmon, Jr." <gharmon@legend.txdirect.net>
Subject: Hickok 539C Tube Tester
Message-ID: <9511272333.AA01225@legend>

I have and use one of these brutes, and it's a wonderful piece of test equipment (bought it at an estate sale for $20). It came with 2 manuals; the normal instruction manual and a Obsolete Tube Types, Supplementary Test Data manual. Are there any other manual available for this tester. The back cover lists 11 adapters to test wierd tubes. Anyone know of a source for these adapters?

Thanks for reading. 73, GARY

```
========================================================================
Gary H. Harmon, Jr., K5JWK           gharmon@txdirect.net
6302 Robin Forest               K5JWK@K3WGF.STX.USA.NOAM
San Antonio, TX 78239
```

From boatanchors@theporch.com Tue Nov 28 11:59:00 1995
From: Bob Roehrig <broehrig@admin.aurora.edu>
Subject: Re: Hickok 539C Tube Tester
Message-ID: <Pine.ULT.3.91.951127183725.22527C-100000@admin.aurora.edu>

On Mon, 27 Nov 1995, Gary H. Harmon, Jr. wrote:

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> equipment (bought it at an estate sale for $20). It came with 2 manuals;
> the normal instruction manual and a Obsolete Tube Types, Supplementary Test
> Data manual. Are there any other manual available for this tester. The
> back cover lists 11 adapters to test wierd tubes. Anyone know of a source
> for these adapters?
>
> Thanks for reading. 73, GARY

Some years ago I bought some "wierd" sockets to make an adapter for my

Hickok 600A. I forget what they all were but Compactron and Novar come to mind. I never built the adapter even though I believe I have the schematic from Hickok 'cause I never run across those tubes any more and wouldn't use them if I did. Anyway, I got the sockets from a local TV place that supplied all the TV shops with their parts. They are made by General Cement. Possibly they are still made.
73 de Bob, K9EUI

From boatanchors@theporch.com Tue Nov 28 11:59:00 1995
From: Duncan Cadd <dcadd@luc.ac.be>
Subject: hot glass etc
Message-ID: <9511280829.AA01098@alpha.luc.ac.be>

Greetings, Anchorites, from a sunny Diepenbeek in N.E. Belgium!

Barry writes:

> By the time the glass is soft enough to bend readily, its resistance is quite
> low.

In another old science textbook here in the Uni library, there is a DIY sodium light source which uses a couple of nickel wires sealed into a soft glass capillary tube (thick walls) and heated by a Bunsen burner until the glass is conductive enough for 110V ac. The current which flows sustains the heat and gives bright sodium light. Sounds wonderfully dangerous!

Sorry Jack. Solid state light source :-) Still, I prefer to think of it as a thermionic LED.
73,

Duncan ON9CHU / G0UTY G-QRP 8117

From boatanchors@theporch.com Tue Nov 28 11:59:00 1995
From: dma@IslandNet.com (Jan Skirrow)
Subject: HP201CR Mystery
Message-ID: <m0tKDky-0005fvC@island.amtsgi.bc.ca>

I recently got an HP201CR that was advertised as "Unused". The physical condition suggests that was true. However, after sitting for 25 years or so in some abandoned rack of equipment, it had a few electrical problems.

The output was more or less correct in frequency and amplitude, but had a low frequency "motor boating" that came and went in a somewhat unpredictable way - but usually with a change in the frequency multiplier switch, suggesting a problem in the negative feedback loop in the oscillator stage. It was curable by adjusting the variable resistor in the negative feedback loop to get the feedback voltage specified in the manual. We'll see, but I'm not sure this adjustment is stable.

The mystery is that the plate voltage on the 6AU6 oscillator is way below what the manual specifies. Screen voltage is a bit high. Power supply is Ok. 6AU6 cathode voltage is low. I have checked the electrolytic that provides the feedback signal by substitution - Ok. I've measured the resistor values in the oscillator stage - Ok. I checked the coupling capacitor between the oscillator and driver stage by substitution- Ok. I haven't checked the decoupling electrolytic on the 6AU6 plate - I don't see how it could cause my voltage problem. The lamp in the cathode seems Ok - what can go wrong with a filament?The mica that bypasses the lamp seems Ok. The 6AU6 tests Ok, but I don't have a spare to try.

Before I root around any further, I thought I'd see if anyone has any suggestions?

Jan Skirrow
VE7DJX

From boatanchors@theporch.com Tue Nov 28 20:42:00 1995
From: "ROBERT W DOWNS, WA5CAB" <103012.2130@compuserve.com>
Subject: HP201CR MYSTERY
Message-ID: <951128142120_103012.2130_GHU82-2@CompuServe.COM>

Jan Skirrow (Digest 343) wrote of problems with a 'new' HP201CR. I'm not familiar with that unit, unless it was ever sold to the Military under a different nomenclature. However, a couple of comments:

1. The 6AU6 cathode voltage is undoubtedly low because the plate current is low because the plate voltage is low. Similar comment on the high screen voltage.

2. If there is a decoupling resistor or inductor 'upstream' of the 6AU6 plate decoupling electrolytic, as there probably is, and the electrolytic is leaky, then the 6AU6 plate voltage will be lower than it otherwise would be. Likewise if the decoupling resistor has gone up in value (the usual drift direction).

73, Robert, WA5CAB

From boatanchors@theporch.com Tue Nov 28 20:42:00 1995
From: dma@IslandNet.com (Jan Skirrow)
Subject: Re: HP201CR MYSTERY

Message-ID: <m0tKU39-0005VzC@island.amtsgi.bc.ca>

>Jan Skirrow (Digest 343) wrote of problems with a 'new' HP201CR. I'm not
>familiar with that unit, unless it was ever sold to the Military under a
>different nomenclature. However, a couple of comments:
>
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>because the plate voltage is low. Similar comment on the high screen voltage.
>
>2. If there is a decoupling resistor or inductor 'upstream' of the 6AU6 plate
>decoupling electrolytic, as there probably is, and the electrolytic is leaky,
>then the 6AU6 plate voltage will be lower than it otherwise would be. Likewise
>if the decoupling resistor has gone up in value (the usual drift direction).
>
>73, Robert, WA5CAB

The mystery is that the plate voltage is about 60% below what it should be; the screen voltage is close to nominal, although a bit high - not low. The cathode voltage is high - not low. The screen gets its current from a voltage divider connected to the junction of the decoupling capacitor and the upstream resistor you mention. Thus, I conclude that this voltage is close to what it should be (maybe a bit high) and that the R and C are Ok.

The plate resistor (between this junction and the 6AU6 plate) is right on. Thus, I think the supply voltages and components are Ok and that the 6AU6 is drawing too much current. The question is why?

The 6AU6 and its following driver work in an RC amplifier config with a positive feedback loop to make the thing oscillate, and a negative loop to make it stable. The coupling capacitor for the positive feedback loop is Ok by substitution. Ditto the resistors that complete the positive feedback loop for the 6AU6.

The only component that mystifies me is the lamp in the 6AU6 cathode circuit, which I think stabilizes the oscillator against supply voltage fluctuations. It is intact (otherwise the oscillator won't) but beyond this, I don't know if it can have other failure modes. It has a small mica bypass cap that seems Ok.

The 201CR is just a garden variety HP audio oscillator, but one with a pair of 6K6s in the output to give lots of power.

Any further suggestions welcome!

Jan Skirrow, VE7DJX
dma@islandnet.com

From boatanchors@theporch.com Tue Nov 28 11:59:00 1995
From: rbiddle@MadVax.mo.ti.com (Richard Biddle)
Subject: Inductor color codes
Message-ID: <9511280432.AA22764@MadVax.mo.ti.com>

I looked at an old Rat Shack reference for inductor color codes and found the following:

	========= Read Actual Value ============					
	Below 10.0 uH			10.0 uH and up		
Black	n/a	0	0	n/a	0	.0
Brown	1	1	1	1	1	0
Red	2	2	2	2	2	00
Orange	3	3	3	3	3	000
Yellow	4	4	4	4	4	0,000
Green	5	5	5	5	5	n/a
Blue	6	6	6	6	6	n/a
Violet	7	7	7	7	7	n/a
Grey	8	8	8	8	8	n/a
White	9	0	9	9	9	n/a
Gold	.	.	n/a	n/a	n/a	n/a

Tolerences: None = +/- 20%
Silver = +/- 10%
Gold = +/- 5%

Examples: Less than 10.0 uH: Brown-Orange-Grey = 138 uH
Brown-Gold-Red = 1.2 uH
Gold-Red-Green = .25 uH

10.0 uH and up: Brown-Black-Yellow = 100,000 uH
Brown-Black-Black = 10.0 uH
Brown-Black-Brown = 100 uH

From boatanchors@theporch.com Tue Nov 28 20:42:00 1995
From: pmills@cyberhouse.com (Phil Mills)
Subject: JAN xtals question
Message-ID: <199511281249.GAA10753@ns.cyberhouse.com>

I've ordered from JAN before and been satisfied with service,etc. but do have a question. When they don't have the type of rig you are ordering for in their database, the order taking person wants you to specify a load capacity for the xtal....this can range from 20 pf to 50 pf. Can someone explain to me what this means? And, can I determine what value is appropriate by looking at a schematic and associated component values? What happens if you specify the wrong value? I ordered a xtal (which I have not had time to use yet!) for a Viking Invader and just guessed at a 32 pf value......

thanks,
Phil

Phil Mills, AB5TH
pmills@cyberhouse.com
713-482-2763

From boatanchors@theporch.com Tue Nov 28 11:59:00 1995
From: berg stephen erik <z931086@corn.cso.niu.edu>
Subject: Johnson Thunderbolt Advice
Message-ID: <Pine.3.89.9511272140.C10313-0100000@corn.cso.niu.edu>

I am going to replace the electrolytics in my Johnson Thunderbolt linear over Christmas Break. I have never run a QRO rig before, and would like some advice from those with lots more experience with these units. I built a power cord with 12 gauge cable that runs over to the electric dryer outlet. That should provide a decent source of 220 volts. I plan to test the amp with my 5 watt Argonaut II, but will probably use the National NCX-5 and an attenuator pad to run it on the air. I was able to purchase a Dow Key relay off of a list member, so the antenna and transceiver switching problem is taken care of, and I can try to put the amp back into service. I got some new capacitors for the power supply since the oem ones pulled enough current to vaporize the 2 20 amp fuses on my initial power up attempt! That was rather impressive to someone like myself who has done most of his operating at less than 10 watts output from various rigs. I wanted to let the mercury vapor tubes settle in, so I let the rig warm up for over an hour until I got the courage to turn on the B+ supply. I had cleaned and dusted out the rig before trying that. I am going to lube the fans, too, as they made some noise. What else should I do, and what should I look out for when I try again.

73,

Steve WA9JML

z931086@corn.cso.niu.edu

From boatanchors@theporch.com Tue Nov 28 20:42:00 1995
From: rbsingl@rs6000.cmp.ilstu.edu (rodger singley)
Subject: Johnson Valiant questions
Message-ID: <9511281658.AA82151@rs6000.cmp.ilstu.edu>

The saga of the Viking Valiant continues-

In chapter 1 an arcing 866a socket was replaced and the Valiant was somewhat happy...but then the HV switching relay apparently stuck in the on position causing HV to immediately be applied to cold 866a's, which did not make them happy. Testing showed HV dropping to 400v under 150 mil load! While trying to be certain that the rectifiers were at fault (since I have no 866's in the junk box) I measured the secondary resistance of the HV xfmr and found a new source of concern. Manual specifies 50 ohms each side of center, mine showed about 45 on one side, 48 on the other-shades of shorted turns! Parts unit still has its HV xfmr and a quick measurement showed the same resistance. Decided to measure no load voltage on secondary and found both sides providing equal voltage (around 780 volts)-thus xfmr looked good. I presume the physical winding scheme of the transformers used by Johnson has one half of the secondary wound over the top of the other, thus same number of turns but larger diameter winding = more wire and more resistance. Or if someone has a better explanation for this, I am interested-so much for values specified in the manual. Bottom line is, with a couple of silicon stacks subbing for the 866a's (and a different relay!), HV is back where it belongs!

BTW, while buying some 1KV diodes at the local rat shack to (temporarily) replace the 866a's, I overheard an interesting sales presentation: Customer asked salesperson about the benefits of "oxygen free" audio cables. Salesperson told customer that "the lack of oxygen killed the copper molecules, thus deadening the sound if the room was too live"! Nice to know creative selling is alive and well!

Now for the questions:

When final is neutralized according to instructions in manual (no grid current increase either side of resonace), dip does not exactly coincide with maximum output. Is this common with this rig (or type of rig?)

How great should second harmonic supression be? Tuned up on 40 meters, 2'nd harmonic is only down about 28 db on spectrum analyzer. Is this what I should expect to see?

Thanks in advance for any help!

Rodger WQ9E

rbsingl@ilstu.edu

From boatanchors@theporch.com Tue Nov 28 20:42:00 1995
From: Michael.J.Knudsen@att.com
Subject: Re: Johnson Valiant questions
Message-ID: <9511281718.AA07326@bock.ih.att.com>

I like Rodger's theory about why the two sides of a center-tapped winding would have different resistances. Makes snese, and eases my mind -- I have several radios with push-pull output, and the audio xformer primaries always have different resistances, often 20% apart. Yet no other evidence of shorted turns (ie, the radios sound great).

I wonder if some of the fancier hi-fi transformers are wound in such a way as to use equal lengths of wire, therefore putting the same ohmic resistance in both legs? You don't have to be an audio-phreak to see that this might improve the push-pull balance and reduce harmonic distortion.

Sure beats oxygen-free wire. BTW, you shuda told the salesdude that cooper evolved while Earth still had a reducing atmosphere, and hence actually thrives on lack of O2, just like gangrene. Make sure the customer hears you say "gangrene." That's the green copper turns when exposed to the modern oxydizing atmosphere. "Here -- take 12 free batteries, just git outta my store!" 73, mike k w9nrd

From boatanchors@theporch.com Tue Nov 28 20:42:00 1995
From: "Jack Giehl" <JACKG@s1.xetron.com>
Subject: Re: Johnson Valiant questions
Message-ID: <2C7D3810573@s1.xetron.com>

Dear BA Enthusiasts,

Rodger wrote about his Valiant, replacing 866's with silicon and that the final plate current dip does not exactly coincide with maximum output.

When I got my $40 Valiant, the 866's where replaced with diodes. That just wouldn't do. I HAD to see those 866 bulb's GLOWING, so I put them back in. My Valiant output power closely matches the plate current dip when the current is 330 MA using AM. The power output is about 150 watts on a Bird 43.

One thing I had to do with my Valiant was to repair the RF plate current shunt resistor. The resistance value was about 30% too high.

Since the shunt is some sort of low ohm resistance wire,
I empirically derived the necessary resistance by adding some magnet wire in parallel until my test meter and the Valiant panel meter agreed.

If you decide to run AM with the Valiant, you might consider the W6BM audio modification.

Jack

73,
```
===============================================
Jack, WB8BFS
jackg@xetron.com     Loveland, Ohio (near Cincinnati)
===============================================
```

From boatanchors@theporch.com Tue Nov 28 20:42:00 1995
From: "ROBERT W DOWNS, WA5CAB" <103012.2130@compuserve.com>
Subject: MILITARY LOUDSPEAKER IMPEDANCE
Message-ID: <951128142115_103012.2130_GHU82-1@CompuServe.COM>

Chuck Rippel's note on properly matching the audio output impedance of BA sets reminded me of an incident some years ago. I bought several LS-166's from a guy who commented that he was getting rid of them because he had hooked one of them to the radio in his pickup truck and it sounded awful. Small wonder as his truck had an all-transistor radio, and probably had 8 ohm output.

I've heard other similar comments about the LS-3 and LS-7 when plugged into later BA military receivers which had 600 ohm output. The LS-3 and LS-7 have 8000 and 4000 ohm to voicecoil transformers in them, not 600 ohm. The LS-9 is the same as the LS-3 except 250 ohm input, and the LS-11 is the same as the LS-7 but with 250 ohm input. The LS-166 and LS-454 are both 600 (or 500 in some cases) ohm input.

Later production Command Set receivers, BC-312's, BC-342's, BC-348's, BC-654's, etc., have a 'low impedance' tap on the output transformer. This is usually 250 ohm. Most of these sets have a reversible tag on the front to indicate which way they are connected. My experience is that mixing 250 and 600 ohm speakers and receivers works OK, but not with the 4000 or 8000 ohm units.

Similar comments can be made about the WW-II military headsets. There are both low and high impedance earphones, and mixing them doesn't work very well, even in an otherwise perfectly restored Ford M8 Armored Car, as I recently demonstrated to the owner, a friend of mine, but not really a radio collector.

Anyone needing detailed info on military speakers or headsets, drop me a line.

73, Robert Downs, WA5CAB

From boatanchors@theporch.com Tue Nov 28 11:59:00 1995
From: "Barry L. Ornitz" <u856010@eastman.com>
Subject: More on Delrin, Cyanoacrylates
Message-ID: <Pine.ULT.3.91.951127185139.103C-100000@dua150.kpt.emn.com>

On Thu, 23 Nov 1995, Kevin J. Pease wrote:
> On Wed, 22 Nov 1995, Barry L. Ornitz wrote:
>> Delrin is an acetal plastic. I would expect methyl ethyl ketone (MEK),
>> methyl isobutyl ketone (MIBK), ethyl acetate, and perhaps even acetone to
>> solvent weld it together quite well. Clamping the parts together with
>> the minimum of solvent as Stan described is probably optimal.

> I have tried all of the above solvents on Delrin and none of them even
> begin to melt and glue that stuff. Infact I havnt't found any solvent
> that will work on Delrin.

Delrin is DuPont's trade name for a number of acetal polymers, copolymers, and blends. The homopolymer, poly(oxymethylene), is soluble only in a limited number of solvents and these still require high temperatures. The copolymers and blends tend to be more soluble. I suspect Stan and I have been lucky to have encountered these rather than the homopolymer.

However, the recommended adhesives for acetals in general are: hot melt adhesives based on vinyl copolymers, cyanoacrylates (SuperGlue, etc.), ethylene-propylene resins, and polyurethane adhesives. Hexafluoroacetone sesquihydrate has been used commercially as a solvent adhesive but even I would not go near this stuff! To get paint to stick to acetals, the surface must be pretreated similar to the pretreatments applied to polyolefins, such as corona discharge.

For home use, cyanoacrylate glues are probably best to glue acetals. They cure quickly and give moderate bond strengths. The original cyanoacrylate glue was developed here at Eastman (Eastman 910 Adhesive) and there is some interesting folklore about it if anyone is interested. We sold our patents and technology to Loctite, but a number of companies now make these "superglues".

Kevin, thanks for bringing this up.

73, Barry WA4VZQ ornitz@eastman.com

From boatanchors@theporch.com Tue Nov 28 11:59:00 1995

From: Mark60195@aol.com
Subject: Re: Nasal irrigation: Not to belabor, but...
Message-ID: <951127233739_60390538@emout06.mail.aol.com>

In a message dated 95-11-27 10:36:47 EST, pbock@melpar.esys.com (Paul H.
Bock) writes:

> Not to make a thread out of this subject, but in the absence
>of a rubber bulb just take a large water glass and fill it to the
>brim with saline solution (I use a tablespoon of salt per glass,
>well-stirred in warm water). Whilst standing over the sink, just
>"snort" it up into your nose. Does a fine cleaning job.
>

Ummmmm.... I think I'd rather have the sinus infection. Thanks
anyways guys! :-)

Mark Lakomski
WB9PPL

From boatanchors@theporch.com Tue Nov 28 11:59:00 1995
From: jproc@worldlinx.com
Subject: RE: New group member
Message-ID: <Chameleon.4.01.2.951127110801.jproc@>

>I can offer for the Group some expertise and knowledge of old German &
Russian
>(old and recent) communication equipment.

Vlad,

Welcome to the group.

When you left Russia, were you able to take any manuals or documentation with
you? If you were able to bring any books, why don't you perhaps make a list
of the more poplular receivers with a brief description about each. These
could be posted to the BA archives and would help to enhance some of the
reference material which has been posted there.

Did the general public in Russia have military surplus receivers available in
the marketplace when you were there? If so, was there anything equivalent to
the very popular American military receiver, namely the R390? Were there
Russian equivalents to the old US radio manufacturers such as Hammarlund,
Hallicrafters or National?

Regards,
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Jerry Proc VE3FAB
E-mail: jproc@worldlinx.com
Radio Restoration Volunteer
HMCS Haida, Toronto Ontario
~~~~~~~~~~~~~~~~~~~~~~~~~~~~

From boatanchors@theporch.com Tue Nov 28 20:42:00 1995
From: Nick England <nick@cs.unc.edu>
Subject: new Heathkit book
Message-ID: <199511281720.MAA16725@altair.cs.unc.edu>

Several folks have asked me where to get the *new* Heath book by Chuck Penson
     (not to be confused with "Heath Nostalgia"
     or the reprint of ads by Marty Drift)

Chuck's book has a photo, production dates, price, and a page or more text on each piece of ham gear (plus SWL rcvrs) produced by Heath from start to finish. Also includes some great reading on the development of ham gear at Heath. Have you gotten the idea that I really like this book ??

Disclaimer - I've got no commercial interest here, just spreading the word on a really good resource.

order from

Electric Radio
Box 57
Hesperus CO 81326

$24.95 plus $3 Shipping

73 from Nick the Heath nut
nick@cs.unc.edu

From boatanchors@theporch.com Tue Nov 28 11:59:00 1995
From: wier@bobcat.etsu.edu (Bob Wier)
Subject: Re: NOVA project
Message-ID: <v01530503ace03540cbcd@[192.43.199.81]>

Please forgive an off-topic (somewhat) post, but since we have some real gray-beards on the list here, I thought this might be relevant.
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This notice is originally from the history of science and technology
mailing list. Some of the discussions here on early amateur work, and
use of early day Morse seem as if they might be something along the lines
of what they are looking for.

THANKS & 73's de WB5KXh

 -------- Bob Wier ----- wier@bobcat.etsu.edu -----
 keeper of the Photo-3d, Motorola MC68HC11, ICOM
   Radio, Overland-Trails mailing lists and the
         LDS Genealogy State Research Outlines
      "Error, no keyboard - Press F1 to continue."

>The science program NOVA at WGBH Public Television is beginning a 5-part
>series on science in the 20th century. I am working on the first program,
>which is on technology. My colleague Beth Tierney who is working on a program
>on the U2 has recommended this list as a great source of information and
>advice. We are shaping the themes of our program, and would like to talk with
>people who have special knowledge of our subject areas, which are: Taylorism,
>mass production, aviation (1903-1918), radio (to 1928), movies (20s and 30s),
                                      ^^^^^^^^^^^^^^^^^^^^
>mass agriculture (esp. in California), the Hoover Dam, the 1939 World's Fair,
>WWII technologies (radar, bombing), computing (ENIAC to SAGE, uses in missile\
^^^
>and rocket technology), space (V2 to Apollo 11), plastics, television (impace
>on societ/politics) and critiques of technology (Depression era, 60s). These
>are all huge subjects, but we hope to say something essential about many of
>them if we can find the right point to touch down. If you would be willing to
>talk about any of these while we are still in an early research phase, please
>E-mail me directly (don't crowd the list!) at harry_gural@wgbh.org.   We may
>have more thematic discussions on the list later if people are up for it.
>Many thanks. -- Harry Gural

From boatanchors@theporch.com Tue Nov 28 11:59:00 1995
From: "Chuck Rippel" <crippel@exis.net>
Subject: Racal RA-6790
Message-ID: <199511280350.WAA28075@marlin.exis.net>

Does anyone have any thoughts as to the Racal RA-6790's Tucker
Electronics is selling?

They are a wonderful receiver by reputation but I wonder what Tucker
has. There are also a selection of filters available.

Drop me an E-Mail please.

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Chuck Rippel
crippel@exis.net

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From boatanchors@theporch.com Tue Nov 28 20:42:00 1995
From: Michael.J.Knudsen@att.com
Subject: Re: Racal RA-6790
Message-ID: <9511281824.AA07355@bock.ih.att.com>

I hope someone posts (not just email) some info about this Racal. Is it a tube job? My impression from Moore's book is that the native British sets had two-digit numbers (like 71) and the US-made versions had a 3rd leading digit, like 117 or something like that. My own unit is a British RA-17C, the older design in what Moore shows as the more recent cabinet.

Does the 6790 use the Wadley loop, or did they go to the Collins box-of-xtals route? Moore *speculates* that the 117 was the last Racal firebottle rig.

I have a recent Tucker catalog but with only new stuff, no surplus.
73, mike k w9nrd

From boatanchors@theporch.com Tue Nov 28 20:42:00 1995
From: steve@hi.com (Steve Byan)
Subject: Re: sweep generators
Message-ID: <v02130503ace0c80fce18@[140.243.30.128]>

Thanks to Hank for the excellent homebrew sweep generator post. One thing I don't understand about sweep generators is the "markers". How do these work? What do they look like on the scope display?

On a spectrum analyzer (i.e. in the frequency domain), I'd expect to see marker spikes at 5 kHz or 1 kHz spacing (depending on choice of marker frequency). On the sweep generator setup, which runs in the time domain, I don't understand how the marker signals affect the scope display. Is it some trick result of mixing between the swept signal and the marker signals?

Thanks in advance,
-Steve

Steve Byan internet: steve@hi.com
Hitachi Computer Products (America), Inc.
1601 Trapelo Road phone: (617) 890-0444
Waltham, MA 02154 FAX: (617) 890-4998

From boatanchors@theporch.com Tue Nov 28 20:42:00 1995
From: pbock@melpar.esys.com (Paul H. Bock)
Subject: Re: sweep generators
Message-ID: <9511281625.AA04535@syseng1.se.melpar.esys.com>

> One thing I
> don't understand about sweep generators is the "markers". How do these
> work? What do they look like on the scope display?
>
> Steve Byan

When a sweep/marker generator is used with a conventional (i.e., time-domain) oscilloscope, the sweep generator provides the sweep to the 'scope through the EXTERNAL SWEEP input. Thus, the 'scope is being swept left to right at the same rate that the generator is sweeping from low to high over its swept frequency range. The result is a frequency-domain display on the 'scope. Under these conditions, the markers appear at the proper intervals across the face of the 'scope.

Some generators also provide tunable markers, which are convenient for setting arbitrary low-high points when aligning oddball circuits.

Hope this helps.

73,

Paul, K4MSG

From boatanchors@theporch.com Tue Nov 28 20:42:00 1995
From: steve@hi.com (Steve Byan)
Subject: Re: sweep generators
Message-ID: <v02130505ace0dcf7b7c4@[140.243.30.128]>

Hi Paul,

> When a sweep/marker generator is used with a conventional (i.e., time-domain) oscilloscope, the sweep generator provides the sweep to the 'scope through the EXTERNAL SWEEP input. Thus, the 'scope is being swept left to right at the same rate that the generator is sweeping from low to high over its swept frequency range. The result is a frequency-domain display on the 'scope.

Yeah, assuming wwe're looking at the detected output of the IF tuned circuits, the scope shows the amplitude response of the tuned circuits.

> Under these conditions, the markers appear at the proper intervals across the face of the 'scope.

I don't understand how we get here. The markers are continuous RF signals, right? What makes the scope trace wiggle when the swept oscillator hits the frequency of one of these marker signals?

Steve Byan internet: steve@hi.com
Hitachi Computer Products (America), Inc.
1601 Trapelo Road phone: (617) 890-0444
Waltham, MA 02154 FAX: (617) 890-4998

From boatanchors@theporch.com Tue Nov 28 20:42:00 1995
From: John Shriver <jas@shiva.com>
Subject: Re: sweep generators
Message-ID: <199511281717.MAA24228@shiva-dev.shiva.com>

> I don't understand how we get here. The markers are continuous RF signals, right? What makes the scope trace wiggle when the swept oscillator hits the frequency of one of these marker signals?

If you turn on your marker generator amplitude real high, what you see is that at frequencies other than the marker, it adds a fuzz to the trace. That's because the marker frequency has no relation to the sweep frequency. It's just noise. (Like hum on a trace.)

At the marker frequency, you get a beat, it always syncs up with the swept frequency. You get an amplitude wiggle at this point, and things are in "sync" with the sweep. I suppose that the pip could go up or down, depending on the phase relationship. But there is a pip.

Of course, in my Heathkit TS-4A TV alignment sweep generator, what's probably happening is that the sweep portion is "locking" to the marker generator. That's probably why it's always an updward pip.

Also means that the sweep isn't exactly linear around that marker frequency. (Of course, for TV alignment, what you really care about is the amplitude at a few key frequencies.)

The Heath TS-4A is quite common. Goes down to around 3 MHz, something like that, since that's below the canonical TV IF frequency. It's harder to find with the 4.5 MHz FT-243 marker crystal still in it. (Anyone got one lying around?) To get better accuracy, you can use an external frequency counter on the marker out connector.

From boatanchors@theporch.com Tue Nov 28 20:42:00 1995
From: pbock@melpar.esys.com (Paul H. Bock)
Subject: Re: sweep generators
Message-ID: <9511281745.AA05864@syseng1.se.melpar.esys.com>

Let me try this again, because I actually mispoke when I referred to the oscilloscope as having been "converted" to a frequency-domain display. It *WOULD* be true if the output of the sweep generator was used as a sweeping LO and drove the LO input of a mixer, whose IF output in turn fed the 'scope (assuming the 'scope frequency response was suitable for the IF present). What you'd have is an elementary spectrum display.

However, the analogy isn't that far off if the sweeper feeds some kind of frequency-sensitive circuit whose output drives the 'scope. What we see displayed is the frequency response of the circuit under test.

Now, I haven't looked inside a sweeper in a *VERY* long time, but I do recall that my old Knight sweeper had both a crystal marker and a tunable marker. In either case, the marker appeared as a "blip" on the displayed response curve (assuming that the marker fell into the RF range being swept by the generator, of course) and looked remarkably like a few cycles of a beat note.....maybe that's what it was, a beat between the sweeper and the fixed marker oscillator. But there are no doubt other techniques which have been used.

73,

Paul, K4MSG

From boatanchors@theporch.com Tue Nov 28 11:59:00 1995
From: john <johnmb@nando.net>
Subject: Tube charts. Hickock 6000! (not 600!)

Message-ID: <9511272321.AA08479@merlin.nando.net>

A correction to my plea for info on tube roll charts, or updates.
I need to find updates for the Hickok 6000 tube tester, not
600, as I posted earlier.

Thanks for your help.
/john

PS: Still seeking input on the TV10A mil tube tester...

From boatanchors@theporch.com Tue Nov 28 20:42:00 1995
From: Michael Crestohl <mc@shore.net>
Subject: WANTED: CY-979/URR case for R-390/390-A
Message-ID: <199511281807.AA16157@northshore.ecosoft.com>

Hello All BA-types!

Does anyone have an old Mil case CY-979/URR for the R-390/390-A receiver?

Please reply by e-mail.

73,

```
  \     __/\__    /      H Michael Crestohl, KH6KD/W1 (also VE2XZ)
   *   /      \  *
    \  | |  | | /        Caretaker of "Boatanchors", Military, Gov't and
       | |||| |          "Spy" Radio Receiving and Transmitting Equipment.
- * -  | |||| | - * -    Trade offers always entertained!
       | |||| |          Internet: mc@shore.net
    /  | |||| | \        LandLine  617-581-5479
   *   |------|  *       QTH: Nahant Massachusetts (a one-square mile island
  /    \______/   \      in Massachusetts Bay, eleven miles from Downtown
         ||||            Boston).  Safest Town in the Commonwealth!
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